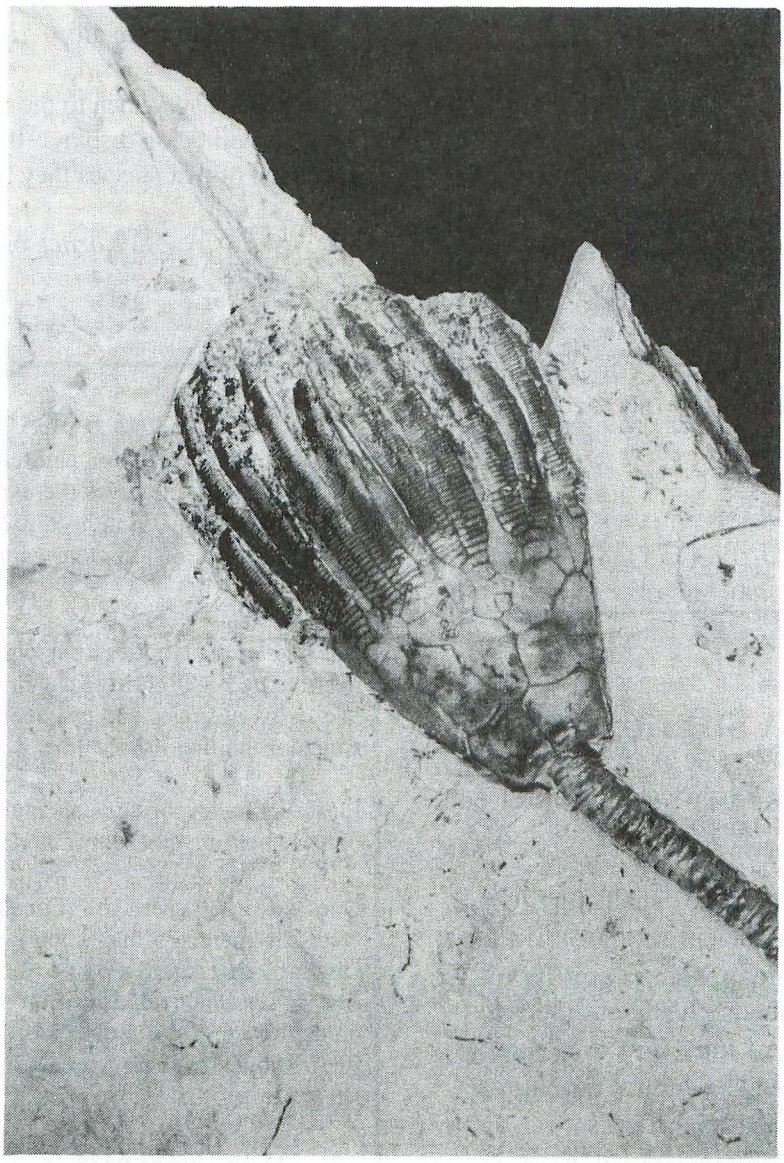
M·A·P·S Digest

Official Publication of
Mid America Paleontology Society

Volume 20 Number 3
March 1997



A LOVE OF FOSSILS BRINGS US TOGETHER

MARK YOUR CALENDARS

Apr 18, 19, & 20 MAPS NATIONAL FOSSIL EXPOSITION XIX--EXTINCTIONS

Fri., Apr. 18: 8am - 5:00pm
Sat., Apr. 19: 8am - 5pm
Sun., Apr. 20: 8am - 3pm

May 27-30 PREVENTIVE CONSERVATION OF GEOLOGICAL MATERIALS
San Diego Natural History Museum

June 2-5 ADVANCED CONSERVATION OF GEOLOGICAL MATERIALS
San Diego natural History Museum

Sept 16-19 IDENTIFICATION OF GEOLOGICAL MATERIALS
Denver Natural History Museeum

Courses provide an integrated overview of the nature, prevention, and treatment of damage to geological-origin materials, inclunding paleontology, among others. For catalogue, contact:

James Black
International Academic Projects
31-34 Gordon Square
London WC1H OPY
UNITED KINGDOM
ph. (171)387-9651; fx. (171)388-0283
email james.black@ucl.ac.uk

TURRITELLA SHELLS

from *Rock Rollers*. Nov 95
via *The Tully*, Park Forest Earth Science Club
Park Forest, IL. Jan-Fe 97

Twenty to thirty million years ago, small turritella shells were laid down on an ancient sea floor at the foot of the Wind River Range in what is now Wyoming. These tiny spiral shells then solidified to form a compact mass pressed into very thin slabs. When sliced, the black jasper-like matrix highlights the unique beauty of these agatized fossils. If you want to hunt for turritella agates, you'll have to hike the country roads and trails around Wamsutter, Wyoming.

ABOUT THE COVER

by Jim Kostohrys, DesPlaines, Illinois

The cover photo, taken by Dan Behnke of Northbrook, Illinois, shows the calyx of a complete crinoid, *Eucalyptocrinus crassus* (Hall) from the Waldron shale, Indiana. The specimen was expertly prepared by Dan Cooper of Ohio, who was also present at the time of the find. Several reputable sources have told me, but I have not yet confirmed it, that there is only one other complete specimen in existence, and that specimen was found in 1870 in the same area in which I found this specimen. I was extremely lucky to have Dan Cooper, Ben Jaffe, Jim Schwartz, and Jason Cooper present at the site, for without their help and expertise, I well may have ruined this important find.

I am grateful to them all.

I donated the specimen to the Field Museum in Chicago, where it will be on display. It is far and away the finest specimen of that species they have ever seen.

See artice on page 4

97/02 DUES ARE DUE

Are your dues due? You can tell by checking your mailing label. The top line gives the expiration date in the form of year followed by month--97/02 means 1997/Feb. Dues cover the issue of the Digest for the month in which they expire.

We do not sent notices but will let you know if you are overdue by highlighting your mailing label on your Digest. We carry overdues for two months before dropping them from our mailing list.

Please include your due date and name exactly as it appears on your mailing label--or include a label.

Dues are $20 per U.S./Canadian household per year. Overseas members may choose the $20 fee to receive the Digest by surface mail or a $30 fee to receive it by air mail. (Please send a check drawn on a United States bank in US funds; US currency; a money order; or a check drawn on an International bank in your currently.) Library/Institution fee is $25.

Make checks payable to MAPS and mail to:
Sharon Sonnleitner, Treas.
4800 Sunset Dr. SW
Cedar Rapids, IA 52404

READY, SET, GO -- TO EXPO

April 18-20 is just a couple of short weeks away now, and we know many of you are planning to attend MAPS EXPO in Macomb. Doug DeRosear says all the tables are sold and there are people on a waiting list, so we know there will be many great fossils to look at, buy, sell, and/or trade for. Admission to the show is free.

The theme of this year's show is extinctions. Warren Allmon, from the Paleontological Research Institute, will be the keynote speaker Friday night. Saturday will include a new twist on the usual live auction at night: the addition of a silent auction during the day. Everyone's pretty tired by Saturday night, and in the past many have not been able to last until the end of the auction. It is hoped that the silent auction will enable more people to participate and shorten the sale at night.

The Post Office will have a station near the front desk Friday and Saturday, offering the cancel Tony Verdi designed especially for the show. The April (EXPO) issue of the *Digest* will be given out at the show or mailed from there to those not in attendance.

EXPO is a great place to visit with old friends, meet new ones and have a good time with lots of people who are interested in fossils. If you haven't been to the show before, we think you'll be pleasantly surprised. Hope to see you there!

HOW TO PRESERVE FOSSILS

by Ken Pugh, Fraser Centre for Non-marine Eocene Research, Sardis, British Columbia
in *Paleo Newsletter*, Jean Wallace, ed. Nov 96

I have used common silica-based white glue (Bondfast, Wellbond) for years to harden and preserve both archaeological and paleontological materials. I begin by brushing on a water-diluted solution, which impregnates the porous material.

The water eventually evaporates leaving the silicates behind to bond. Later applications are applied if necessary using a less diluted solution.

Errors can be corrected by soaking the joint in water. The glue, if applied carefully, leaves no trace.

SUMMER DIGESTS

As was mentioned earlier, the next Digest is the EXPO issue. The May-June issue will come out in June and the July-September issue will be out in late August. October starts the regular monthly issues again.

If you pay your dues at EXPO, check your label on the May-June Digest to be sure they were recorded. Lots is going on at EXPO, and with lots of people paying in cash, it's easy to make mistakes. Just let the editor know if your dues do not get credited.

METEORITE EMBEDDED IN CORAL

information sent by Ernest Hammons, Petersbirg. TN

This past December a gentleman came to Ernie Hammons' door with a specimen he wanted identified and sawed in half. Ernie identified the specimen for him as *Favosites*, but what made it especially interesting was that a large peice of meteorite was completely embedded in the coral. The fragment was from the Postleipers Pre-Richmond Enterval meteorite that approached from the northwest and struck the earth at Howell, forming a crater with a minimum depth of 200 feet and a diameter of more than a mile. I hit with enough force to bury a fragment into a clump of coral. Ernie was rewarded with a second chunk of the meteorite the man had in his truck.

A DOWNY DINOSAUR

source: *Arizona Republic*, Jan 97
sent by Jim and Sylvia Konecny

Reports of a fossil dinosaur found in China with traces of feathery down along its spine and sides have added new evidence for the theory that birds evolved from dinosaurs. Although scientists say that dinosaurs did not fly, the finding of feathers on a specimen is not surprising to them since it has long been thought that feathers originated for insulation, not flight. And while the down on this dinosaur appears to be purely for insulation, it is typical of the kind in true birds that develops into feathers, including the kind used for flight.

COLLECTING AND PREPARING COLUMBUS LIMESTONE FOSSILS

by Marc Behrendt, Somerset, Ohio

Columbus limestone is a common Devonian formation in central Ohio. Exposures are numerous, ranging from many quarries in central Ohio to the banks of the Olentangy and Scioto Rivers. It is quite fossiliferous, bearing many brachiopods along with a scattering or pockets of gastropods, blastoids, crinoids, cephalopods, fish parts, and rarely, trilobites.

The most "common" trilobite is *Coronura*, which is only found as a pygidium. Intact *Cononura* are extremely rare. Other trilobites (typically fragmented) found in the Columbus limestone are *Basidechenella*, *Trypaulites*, *Anchiopsis*, *Odontocephalus*, and *Phacops*.

Fish parts are typically plates and spines, some of which may be very large. The plates may be dimpled with various sized pustules, appearing at first glance (to me), as a coral colony. When prepped out, the fish plates turn a beautiful chocolate brown and black color.

The Columbus limestone is fabulously fossiliferous; however, it is notoriously hard. I received three specimens to prepare, each solidly embedded within the limestone; I had my doubts as to what I could accomplish.

Surprisingly, the dolomite air abrasive brushed off the exposed fossils with relative ease, but as expected, did not cut the limestone. My ARO pneumatic scribe barely made a scratch in the hard rock. I pulled out the big gun, the Chicago Airscribe, and carefully and slowly worked the rock surface away from the fossil, finding I could controllably remove the matrix.

The fossil I chose to prep first was a large blastoid. The only exposed section was a small portion of the calyx. As I slowly approached the blastoid with the Chicago, the limestone separated neatly and perfectly from the fossil!

The blastoid, a chalky looking mound when I received it, began to look great after the initial dusting and scribe work. I worked the matrix around the blastoid, making sure not to work into a hole or ditch. Amazingly, the fossil cleaned up beautifully in just one night.

The next fossil was a large spiny gastropod. Unfortunately, most of the spines appeared to be broken off. I hoped to expose intact spines from below the limestone surface. This fossil required patience and a light touch to not damage any unexposed spines. I worked back and forth between the Chicago and the air abrasive.

I decided to mix in about 20% AlOx #17 along with the dolomite powder. It did not cut the limestone much better; however, it did remove loose pieces of matrix and exposed the fossil's pits and crevasses much better than plain dolomite.

Although the gastropod was big, fat and sassy, every spine had been sheared off. I chose to expose only the top third since the spines occurred everywhere and money was an issue with this prep job.

The last piece was a double blastoid. Much more confident now, I worked back and forth with the Chicago and airabrasive. This piece turned out great, but on only one side. One of the blastoids was somewhat crushed on the backside.

I recently worked on a few trilobite pygidia. The *Coronura* had dense, stable shells and cleaned off nicely. However, the *Phacops* and *Trypaulites* pygidia were very flaky and powdery from weathering. Beside removing surrounding matrix, there was not much I could do to dress them up without major restoration efforts.

Columbus Limestone is a difficult rock to work with, but the specimens are usually preserved very well and offer the preparer a good opportunity to clean up some unique and beautiful specimens. Patience and care while working a strong hammer (such as the Chicago) up to the fossil will provide fabulous end results. I am told my client who collected the specimens and figured they were unpreparable is still smiling.

THE STORM CONNECTING TWO WORLDS

by Jim Kostohrys

In the long forgotten tropical sea, in a time older and longer ago than anyone can comprehend, a fierce storm darkened the skies. Building force on the open seas, it rolled toward a bay of a continent whose shape would not be recognizable to any geographer. In the Silurian waters of this bay lived many diverse and unusual sea creatures that thrived in the normally soft currents of their protected ocean. One of these animals was an unusually large crinoid. By chance the crinoid had occupied an especially favorable part of the bay floor from which it could filter plankton both coming into the bay with the tides and going out. Its many arms seized hundreds of drifting particles of life, and it fed day and night. Its root system branched and held it fast to the ocean floor while its segmented stem allowed the crinoid to bend without breaking with the tidal currents.

The storm hit the bay with a terrible raging ferocity. The sea floor churned with the force of powerful underwater waves and undercurrents. The waters were filled with the wreckage of organisms torn from the safety of their protective nooks and ledges. Through all of this the large crinoid held tight. Its stem was strong and it did not break as so many smaller crinoids did. Its root held firm, but the storm was eroding away the very mud that was the animal's foundation. Grain after grain slipped away until the roots had too little to hold to, and the crinoid was carried off and finally buried by the sediment dredged up by the maelstrom.

It's a hot August day in the middle of Indiana. I am digging in a pit which has been opened by a backhoe that has taken off the soil, rocks, and clay and is now down to a layer of gray shale. A tarp over the top of the pit mercifully shields my friends and me from the blistering midwestern sun as we race to pry up shale layers before the pit fills with water.

Slabs of shale split apart to reveal life's evidence written in the layers 400 million years earlier. Large snails, crinoid calyxes, brachiopods, and the trilobite fragments are but the debris of lost oceans, forgotten storms. We dig deeper into this ancient book.

Suddenly, I lift a slab and uncover a long winding stem. I have uncovered stems of crinoids before, but this is very long and thicker than what I've seen. I follow the stem to a shaly blob... A connected root system! Some of the 18 inch stem is attached to the slab I have just pried up, and some of it is on the slab lying before me. My friends notice my excitement and come over to help. We follow the stem to the other end and find, instead of a calyx, a vacant cavity where it should have been attached! Dan Cooper, Ben Jaffe and I look frantically for the prize, for without the calyx, this fossil would be just another incomplete find. The head must have rolled down the side of the shale layer when I separated the slabs. Was it thrown away with the previous load's debris, never to be recovered, or did I inadvertently sink my chisel into the center of it, shattering and ruining it completely? At last Jim Schwartz finds the lemon-sized crown, almost at my knee. It appears to be complete. We even find a small shale chip missing off the head, which had only a minute fragment attached. With the complete head, root system and every bit of the stem, the crinoid is a complete and perfect specimen. The heat, humidity, mud and everything else are forgotten in the excitement of the find. I realize I am actually trembling.

CLEANING FERN FOSSILS

from *The Geode*, via *Paleo Newsletter*. Ap 90

Wax, shellac, varnish, lacquer and spray plastic cannot readily be romoved and destroy forever the fine surface detail of fern fossils. Museums use yellow dextrin, good on everything to bring out contrast and help preserve the specimen. Just mix a tiny bit of the dextrin with water to the color of tea and paint it on the fern itself, not the matrix, and it will stand out. Be sure to get yellow dextrin–not white.

PREHISTORIC TRAILS

from *The Fossil Record*, Dallas Paleo. Soc., Steve Comer, ed., Je 95

The oldest wild west creatures were dinosaurs and other ancient animals, and visitors to Wyoming, Montana, the Dakotas and Nebraska can study their fossils at a number of sites:

• The museum at Rock River, Wyoming, displays finds of paleontologist Robert Bakker from his work at the "Dinosaur Graveyard" at nearby Como Bluff in southeastern Wyoming.

• The Geological Museum on the campus of the University of Wyoming in Laramie displays a *Brontosaurus* skeleton, and there's a full-size copper mold of *Tyrannosaurus rex* outside the building.

• Western Wyoming College in Rock Springs has several dinosaur casts from around the area, including a *Tyrannosaurus rex*.

• The Fossil Butte National Monument near Kemmerer, Wyoming, contains a highly concentrated number of fossilized fish and plants. Fossil Butte's Wasatch Formation rises 7,500 feet above sea level with bright red, purple, yellow and gray colorings.

• The Museum of the Rockies at Bozeman, Montana, is one of the country's best known dinosaur attractions, with displays of dinosaur eggs, embryos and nests found near Choteau, Montana, an area now known as Egg Mountain. Egg Mountain is replicated at the museum with life-size reproductions of 32 dinosaurs. Skeletons and skulls of *Tyrannosaurus rex*, *Triceratops*, and others are on display.

• The Carter County Museum in Ekalaka, Montana, has fossils, dinosaur bones, and a complete skeleton of an *Anatosaurus*, or duck-billed dinosaur.

• A recent *Triceratops* discovery is the centerpiece of a new Visitors Center at Makoshika State Park near Glendive, Montana. The park has a number of interpretive trails and part of the Hell Creek Formation, a 65-million-year-old rock layer that wind through the Badlands of Montana.

• You can watch technicians at the Dakota Dinosaur Museum in Dickinson, North Dakota, prepare a 2,000-pound *Triceratops* skull, found in North Dakota Badlands, for permanent display. This new museum, completed last summer (94), also has ten full-scale dinosaurs, including an *Allosaurus*.

• The Museum of Geology in Rapids City, South Dakota, displays an extensive collection of Badlands fossils, including ancient camels, horses and a mother oreodont with skeletons of unborn twins encased in her bones.

• About 100 Columbian mammoths have been left entombed in situ at the Mammoth Site in Hot Springs, South Dakota. It's believed the 10-ton creatures were entrapped in the watering hole over 26,000 years ago when they either slipped in or ventured in without being able to retreat up its steep banks.

• Remains of exotic animals–three-toed horses, dog-sized camels, saber-toothed tigers, giant pigs, rhinoceros-like titanotheres–can be seen at Ashfall Fossil Beds State Historic Park between Royal and Orchard, Nebraska.

For more information, contact Old West Trail Country, in care of South Dakota Tourism at 711 East Wells Avenue, Pierre, SD 57501-3369

NEW DINOSAUR CENTER IN WYOMING

by Joyce Hanchu
from *MWF Newsletter*. Sep 96
via *The Geode*, MDG&MS, St. Peters, MO, Fe 97

The Wyoming Dinosaur Center has recently opened near Thermopolis, Wyoming. The Dinosaur Center was founded to develop and preserve the Upper Jurassic dinosaur fossil sites on the ranch, to support scientific research and to educate the public.

At the present time the center consists of about 500 acres of fossil beds, excavation sites and a museum and parking area on the Warm Springs Ranch at the northern end of the Wind River Canyon, about one mile east of Thermopolis. The public can tour the museum and excavation site and view the preparation lab. Eventually an Exhibition Hall and a Children's Learning Park will be added. The Center plans to emphasize excavating, identifying, preserving and exhibiting important fossil material and supporting scientific data collection, research and study.

The fossil beds on the Warm Springs Ranch were deposited during the Jurassic Period, 208 to 145 million years ago and are a part of what is today called the Morrison Formation, named after a small town in Colorado where these rocks were first described. The Morrison Formation has yielded perhaps the richest dinosaur fauna in the world, especially in Wyoming.

Since 1993, over forty fossiliferous localities have been located on the Warm Springs Ranch. Excavations have so far uncovered mainly sauropod dinosaurs (camarasaur, diplodocus and brachiosaur) at the main quarry. At other sites, scientists have tentatively identified apatosaur, stegosaur, allosaur, camptosaur and iguanodon remains. This site is important because of the number of different dinosaur species and the high preservation quality of the bones.

The Wyoming Dinosaur Center sponsors a "Dig for a Day" program, a chance for the public to participate in the excavation, fossil stabilization, quarry mapping and other documentation, under the supervision of the Center's scientists. There is a fee for this program and participants must meet certain requirements.

The Wyoming Dinosaur Center is open from May 1 through October 31 seven days a week, several hours each day with longer hours during the summer. From November 1 through April 31 it is open by special appointment only. Anyone interested in visiting the Center should either phone or write ahead to ascertain the hours the Center is open and/or inquire about the Dig for a Day program. The phone numbers are 307-864-2997 or 307-864-3775. The address is PO Box 868, Thermopolis, WY 82443.

EARTHWATCH EXPEDITIONS–1997

by Rocky Manning
from *The Fossil Record*, Dallas Paleo. Soc., Steve Comer, ed., Mr 97

Earthwatch is an organization dedicated to improving the quality of life on Earth. It sponsors numerous scientific projects... There are (seven) paleontological projects this year.

Australia' Fossil Forests Jun 30 - Jul 9, Jul 12 - Jul 21, in Stuart Creek, South Australia. Help investigate the Tertiary floral fossils of this largely unexamined area, including fruits of the eucalyptus. Research in this area is likely to greatly expand our knowledge of what Australian vegetation was like.

Dinosaur Footprints Sep 1 - Sep 10, Sep 11 = Sep 20 in Scarborough, England. Search for Jurassic dinosaur tracks, then photograph or cast them. The research will help piece together what kinds of dinosaurs, crocodilians and turtles once roamed the Yorkshire areas.

Mexican Megafauna Jun 16 - Jun 28, Jun 30 - Jul 12, Jul 21 - Aug 2 near Guanajuato, Mexico. Help discover the effect of the opening of the land bridge between North and South America. Six million years ago the newly formed bridge allowed the mixing of the previous 60 million years of evolution.

The End of the Dinosaurs Jul 13 - Jul 25, Jul 27 - Aug 8, in Glasgow, Montana. Research will center on answering the question: "What killed the Dinosaurs?" Dr. Keith Rigby believes that there was an asteroid impact, but that it just contributed to the extinction of the already waning dinosaurs.

The Mammoth Graveyard Jun 29 - Jul 13, Jul 13 - Jul 27, in Hot Springs, South Dakota. This is the 14th season of a massive excavation that has so far yielded 47 mammoths and fossils of the first wolf and short-faced bear found in the north central plains.

Oxford Mammoths May 11 - May 25, Jun 22 - Jul 6, Jul 27 - Aug 10, near Harcourt, England. Help excavate a quarry that was formerly a river shallows where mammoths collected 200,000 years ago. Three handaxes that have been found indicate that there may be a human site nearby.

Search for Neanderthals Jul 10 - Jul 24, Jul 24 - Aug 7, Aug 7 - Aug 21 in the Murcia region of Southern Spain. Excavate the 440,000-year-old remains from Black Cave and Hole of the Doves to find fossil specimens needed to round out our understanding of the Neanderthal.

For more information write:

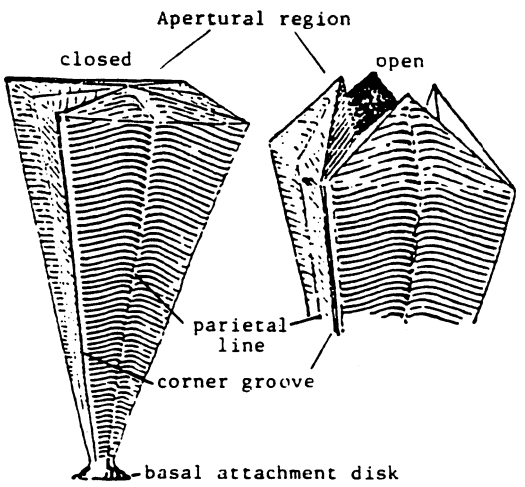
Earthwatch
680 Mount Auburn St.
PO Box 403
Watertown, MA 02272

CONULARIA

by Virginia Friedman
from *The Fossil Record*, Dallas APS. Jy 96
via *Dinny's Doin's*, Fossils For Fun Society, Inc. Fe 97

In 1821 the naturalist Sowerby described the first genus name, *Conularia*, which gave rise to the family name. These enigmatic fossils, whose zoological affinities with other animal phyla are unknown, consist of the remains of very thin tests, or skeletons, composed of chitin and calcium phosphate. The skeletons have a characteristically pyramidal form. They display fine, clearly visible striations running across the length of the shell. In all probability, individuals have been found with an attaching apical disc. In section, the shell appears square or rhomboidal, and there are also internal septa. In those rare instances where the apertures may be observed, the faces of the pyramid are seen to closed by four panels (lappets) which must have been connected by a supple membrane; these mobile "opercula" may thus have completely closed off the upper aperture.

These different elements have led to diverse hypotheses concerning the taxonomic position of the Conularida. Some authors consider them as constituting a separate group without any known connection with other animal groups. Others have temporally classed them in the sub-phylum Cnidnaria, whose better known members include sea anemones and Portuguese men-of-war, of the phylum Coelenterata. Their actual systematic place is still unclear, although they have been the subject of numerous descriptions since the beginning of the nineteenth century. No living form seems to be even distantly related to this group of organisms. Conularids are known from the middle Cambrian to the Triassic and are exclusively marine fossils.



Morphological features of conulariids.

PLEASE ADD THE FOLLOWING NEW OR REJOINING MEMBERS TO YOUR DIRECTORY:

Houston Gem & Mineral
Paleontology Library
10805 Brooklet
Houston TX 77099
713-530-0942

Eric Norris
7144 North Harlem Avenue
Suite 178
Chicago IL 60631
fx. 773-792-9797

Maintenance worker/writer. Will trade. Major interest fish, birds. Nothing for trade (97). Wants to learn more about the architecture of nature.

Jeff Schabilion
431 Rundell
Iowa City IA 52240

Stan Schmidt
112 Evergreen
Elmhurst IL 60126
630-833-2708

Luthier.

Steve & Debra Windemuller
350 24th Ave
Hudsonville MI 49426

PLEASE NOTE THE FOLLOWING CHANGES OF ADDRESS OR CORRECTIONS:

Miguel & Fernanda Barbosa
AVE. JOSO CRISOSTOMO 91-2
1050 LISBON
PORTUGAL
ph. 3140793

Ronald Garney
35 Cottage St.
Amherst MA 01002
413-549-1351

Teacher. Will trade. Major interest trilobites, but tends to collect all flora & fauna from any locale. Has Devonian material from New York & Ontario (including microfossils) as well as Paleozoic material from several areas in the U.S. Wants contact with other collectors in other parts of U.S. & Canada. Also interested in the educational value of fossils & sharing it w/ other teachers.

Yale R. Goldman
86 Dunne Ave
Collinsville CT 06022
860-693-4614

Glen & Penny LaPlaca
3811 Baker Rd.
Orchard Park NY 14127-2020
716-667-3115

Vance McCollum
207 Chuker Dr.
Summerville SC 29485
803-873-7334

Painting Contractor. Major interest deformed or pathological shark's teeth of all species. Will trade Oligocene marine fossils from SC (shark's teeth, whale material) for deformed teeth only.

Charles Warren
30 Sweet St. NE
Grand Rapids MI 49505-4632

The Mid-America Paleontology Society (MAPS) was formed to promote popular interest in the subject of paleontology; to encourage the proper collecting, study, preparation, and display of fossil material; and to assist other individuals, groups, and institutions interested in the various aspects of paleontology. It is a non-profit society incorporated under the laws of the State of Iowa.

Membership in MAPS is open to anyone, anywhere who is sincerely interested in fossils and the aims of the Society.

Membership fee: One year from month of payment is $20.00 per household. Institution or Library fee is $25.00. Overseas fee is $20.00 with Surface Mailing of DIGESTS OR $30.00 with Air Mailing of DIGESTS. (Payments other than those stated will be pro-rated. Send dues to Treasurer.

MAPS meetings are held on the 2nd Saturday of October, November, January, and March and at EXPO in April. A picnic is held during the summer. October through March meetings are scheduled for 1 p.m. in Trowbridge Hall, University of Iowa, Iowa City, Iowa. One annual International Fossil Exposition is held in April.

MAPS official publication, MAPS DIGEST, is published 9 months of the year--October through April, May/June, July/August/September.

Dated Material - Meeting Notice

CYATHOCRINITES

Mrs. Sharon Sonnleitner
MAPS DIGEST Editor
4800 Sunset Dr. SW
Cedar Rapids, IA 52404

FIRST CLASS MAIL

MID-AMERICA PALEONTOLOGY SOCIETY